

Alternative Methods for Understanding Job Content

Francis Green

Professor of Economics, University of Kent, UK.

University of
Kent

My involvement/expertise with this approach to analysing jobs

- UK Skills Surveys in 1997, 2001 and 2006
- OECD Programme for International Assessment of Adult Competences (PIAAC)

Outline

- Objectives of the Skills Surveys
- Key features
- Comparisons with ONET
- Some core findings
- Influence of ONET outside US: PIAAC

Collective Aims of the Skills Surveys

- Measure the distribution of broad and generic skills being used in workplaces
- Collect supporting and contextual information about the jobs where the skills are used
- Track and understand the changes of skill use over time, the links with the education system, and the changing associations of skills with labour market outcomes

Some key features

- Individual-based methodology:
 - High-quality clustered random probability sampling methods;
 - Face-to-face interviews, at home
 - Nationally representative sample (all in work, aged 20 to 60/65)
- Principle: ask respondents what they actually do in their jobs (not what they can do, or how good they are at it)

- Change is measured in two ways:
 - Mainly, by comparison of the cross-section distributions across surveys
 - Occasionally also through some questions on the respondent's job 5 years' previously, with items anchored to responses about the current job

Similarities and Contrasts with ONET

- Same principles, based on job-analysis methods, adapted to the context of a (representative) survey
- Reliance on self-reported “importance” scale

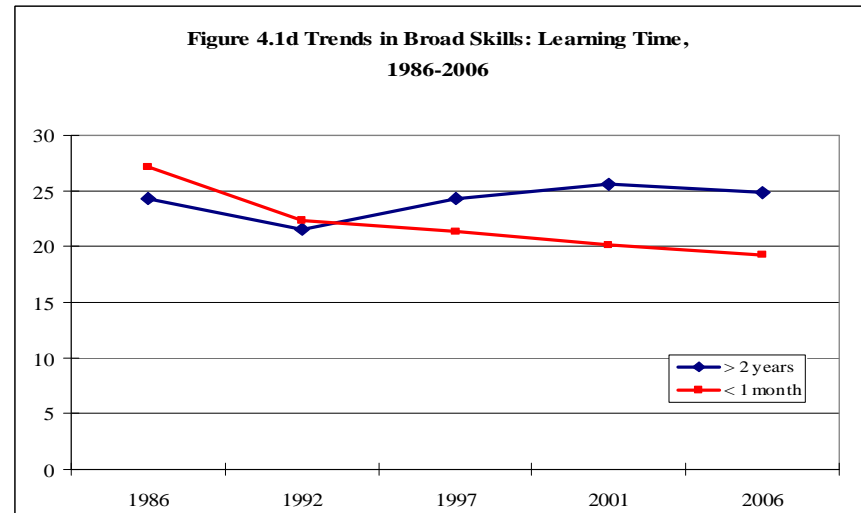
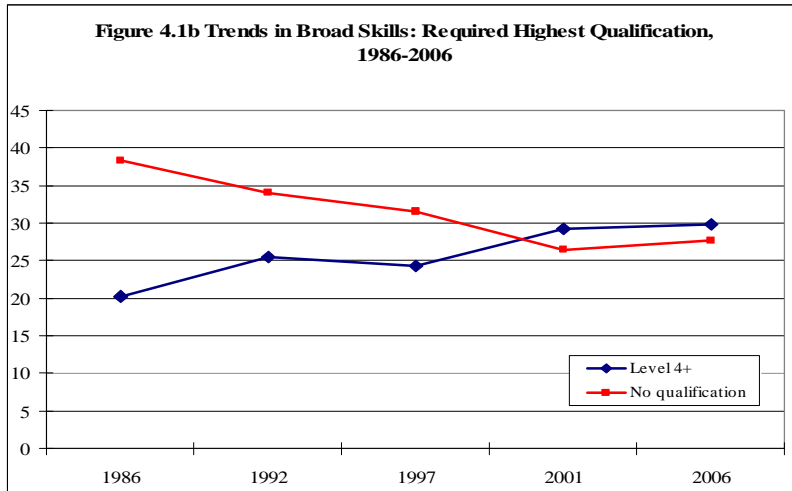
Differences

- **Methods:**
 - Much less extensive detail than ONET
 - Less occupation-specific material
 - Respondents answer about their own job
 - Information is collected at the level of the individual (later can be averaged for each occupation)
- **Objectives**
 - Research and indirect policy support; but no specific input into careers or HR systems
- **Mixed sources of support:**
 - government departments, agencies and the UK's Economic and Social Research Council

The Skills Surveys and researchers' needs

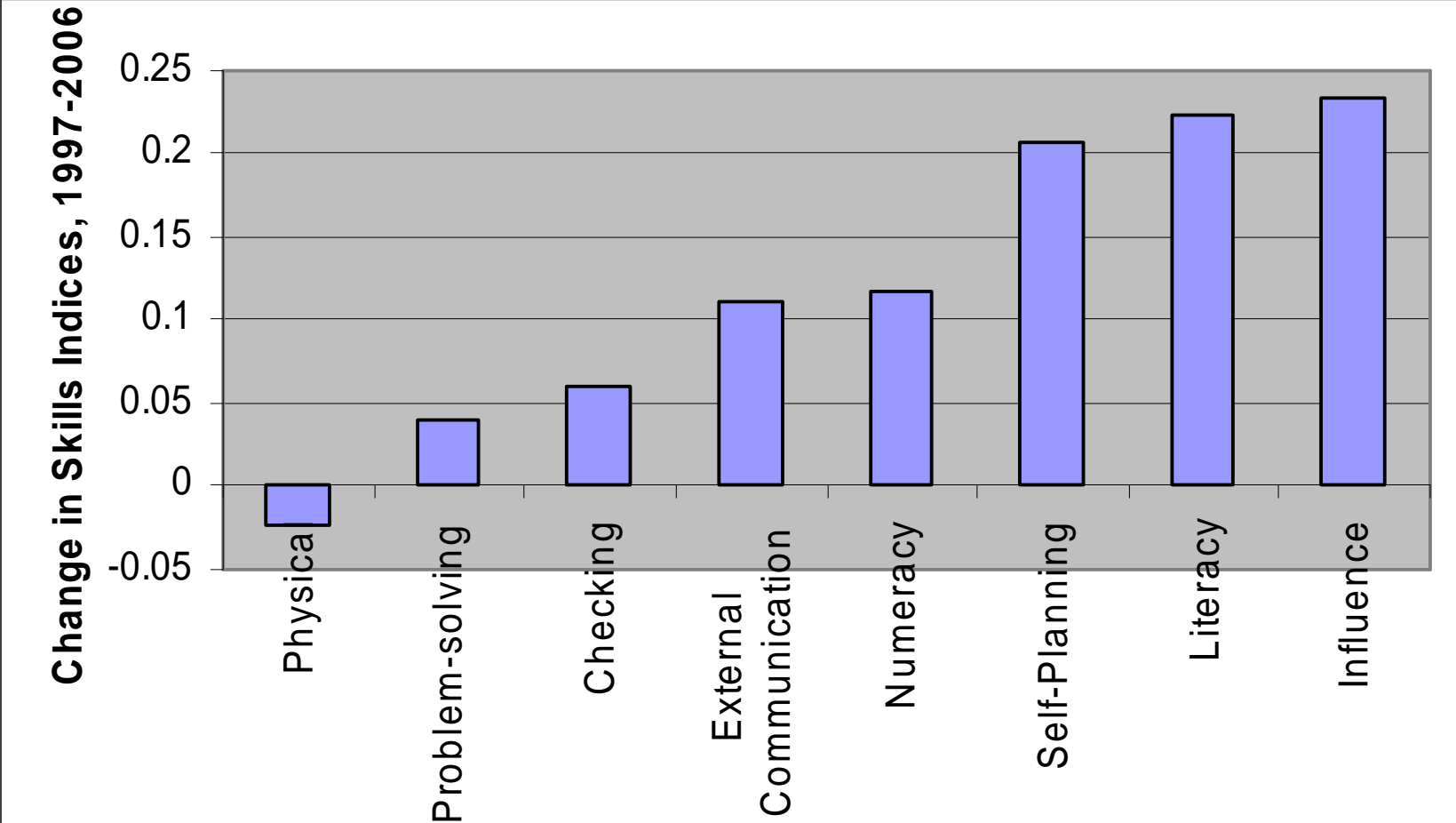
- Importance of the skills surveys for understanding changes in jobs, and variation within occupations
- Implies:
 - Nationally representative samples at each time point
 - Consistent methods over time
 - Individual-level data for researchers

Some illustrative findings: 5 slides



Broad skill requirements rising,
but recent change muted

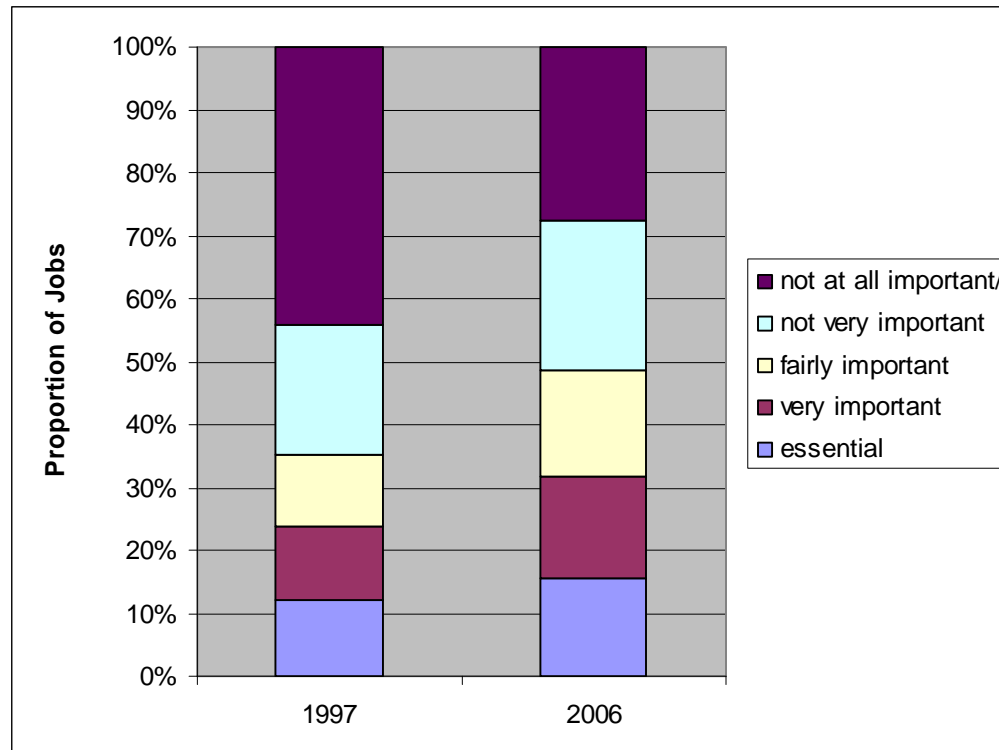
Changes in the Use of Generic Skills, 1997-2006.



Importance of:

“Writing short documents (for example, short reports, letters or memos)?”

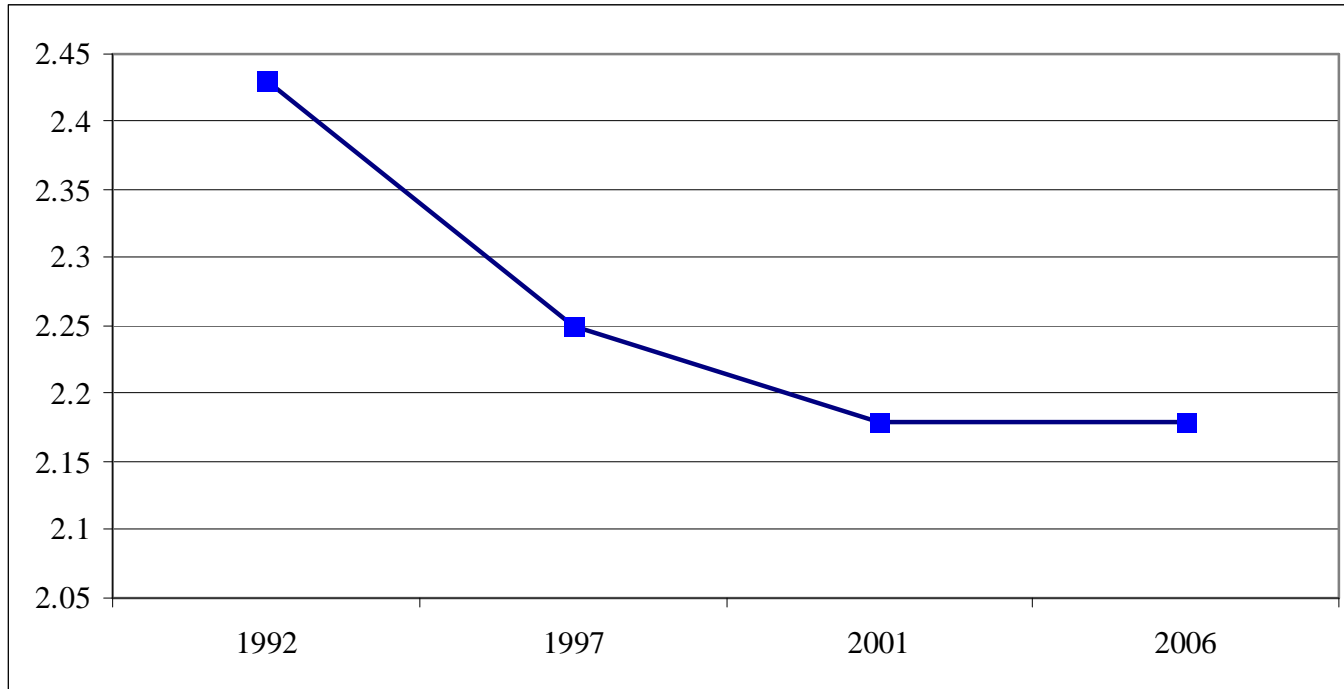
4-digit occupation 7111: Sales and retail assistants



This chart illustrates two features:

- The considerable diversity within one 4-digit occupation
- The increase in literacy requirement is happening within this occupation

Task Discretion No Longer Falling



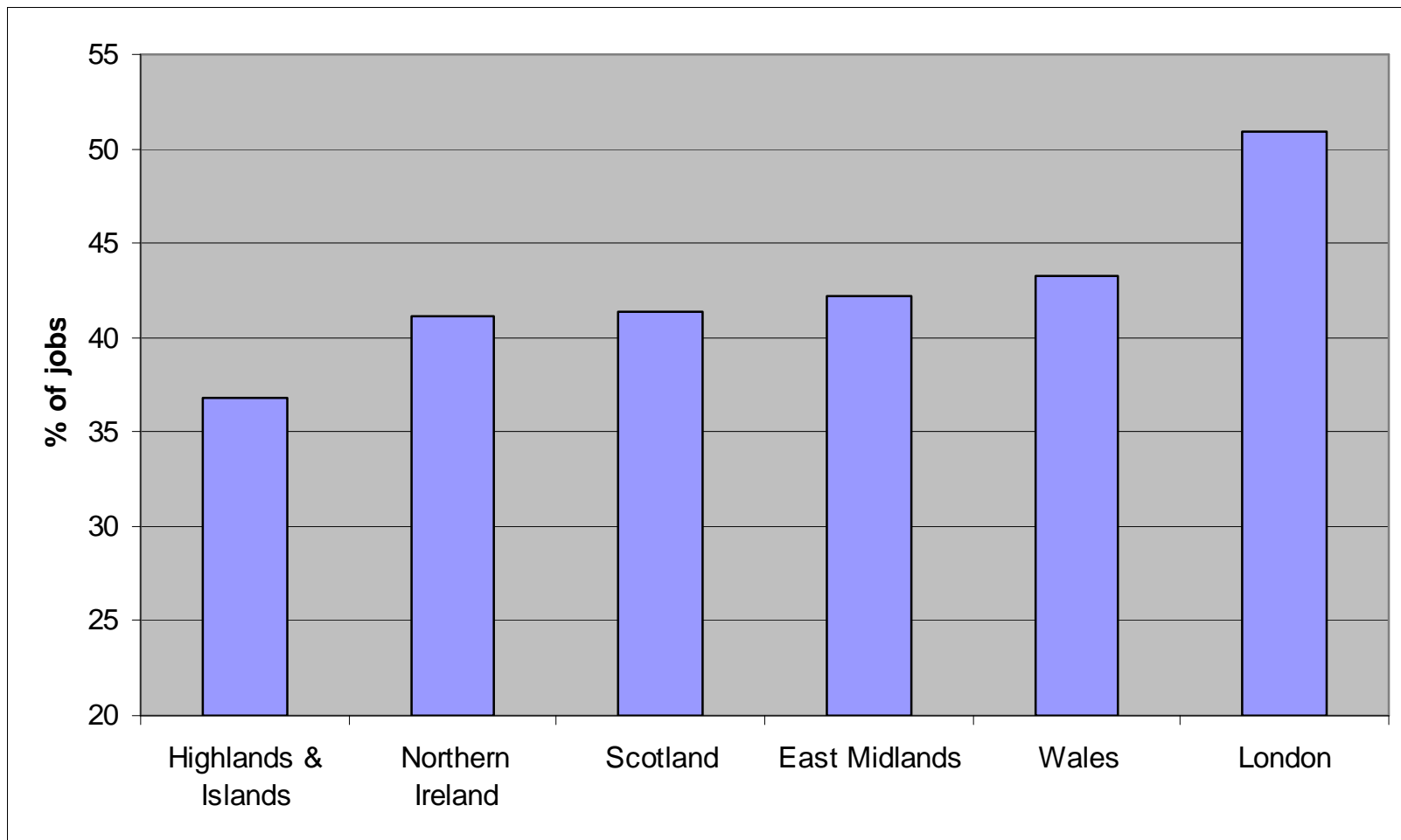
Note: The task discretion index runs is a scale with good statistical properties derived from 4 items; with a range 0 to 3.

Shows declining personal autonomy in the workplace during the 1990s

However, the surveys are also used to examine the distribution of skills use across groups and regions.

The example here shows the differential take-up of computing across some UK regions:

Computer Use “Essential” to Job in 2006: Some Variation Across Some Regions



External influence of ONET

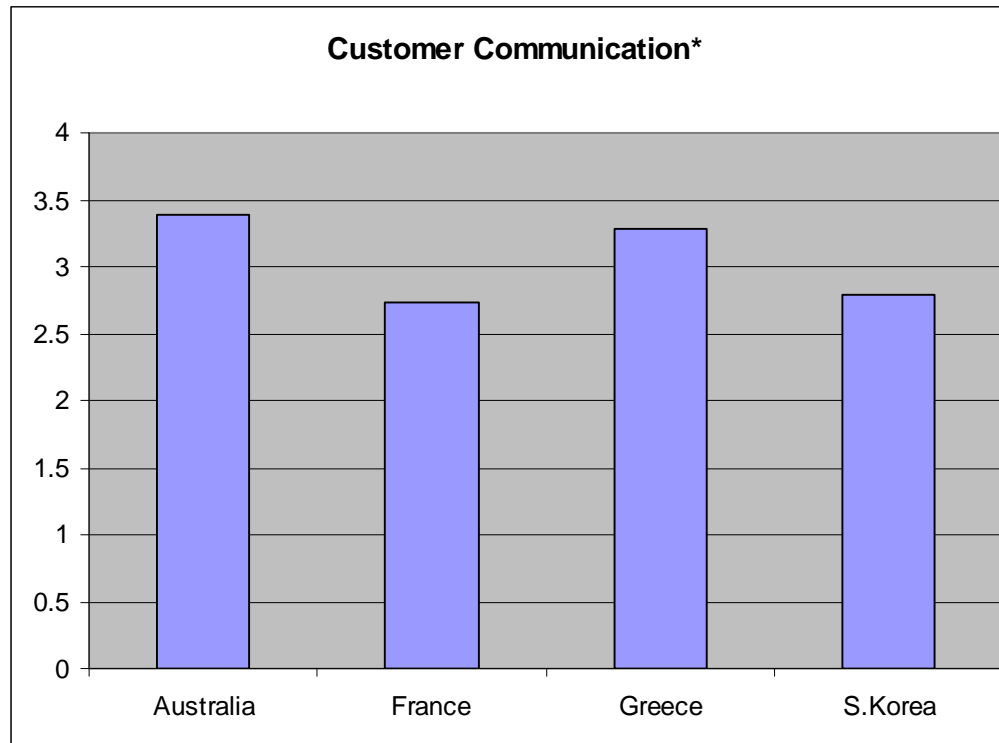
- None directly on UK Skills Surveys
- Design of PIAAC influenced by both UKSS and ONET
 - Test instruments
 - Background questionnaire includes a job requirements module, including measures of use of cognitive skills (literacy, numeracy, problem-solving, IT), interaction/social skills (influencing, self-direction, horizontal interaction, client interaction) physical skills, broad occupational knowledge, ongoing learning obligations

PIAAC

- Questions adapted to fit international comparative context;
- Avoidance of verbal descriptors where possible, and precise attention to wording and translation
- Piloted and validated in 4 countries: France, S.Korea, Australia, Greece
- Both ONET and UKSS used to provide external validity checks
- PIAAC intended to become a long-running series, every 5 years, if it is successful

An example of an interesting finding from the pilot: use of communication skills in jobs

Use is greatest in “Australia” and “Greece”**



* Persuading, negotiating, advising and selling.

Scale range 1 to 5

** Samples NOT nationally representative, but significant differences remain after controlling for industrial sector.

An international perspective

- The “job requirements approach” is rapidly becoming a serious empirical tool for economists and sociologists, around the world
- Surveys similar to the UK Skills Surveys have been recently been developed in Italy and Spain
- the research potential of the German “Qualifications and Careers Surveys” (perhaps the closest international parallel with ONET), which date back to the late 1970s has already been exploited and is being opened up still further

Conclusion: A future for research using the job requirements approach?

- For ONET, the research value will be greatly enhanced to the extent that it can deliver an accurate picture of how skills use and the quality of work is changing in US workplaces
- ONET's advantage, compared with these other similar efforts, is that it has much greater resources, because it is serving the needs of other communities
- The opportunity might be considered to develop ONET in either or both of two ways:
 - Inclusion of more contextual and outcome data in at least some of the surveys (this is the norm in the European surveys mentioned)
 - Inclusion of a repeat interview methodology in some surveys, to give a better dynamic picture of skills use (this would be innovative)